

CLAIMS

1. A security device comprising a holographic or diffractive optically variable effect generating structure  
5 which, when viewed normally i.e. perpendicularly to the plane of the device, replays at least one composite image, the composite image being defined by at least a pair of discrete image elements, the structure being such that at least two of the discrete image elements of the composite  
10 image have different optimal replay angles.
2. A device according to claim 1, wherein the structure replays at least two different composite images, each composite image being defined by at least two respective discrete image elements, the structure being such that at  
15 least two of the discrete image elements of each composite image have different optimal replay angles.
3. A device according to claim 2, wherein each discrete image element has a different optimal replay angle from each of the other discrete image elements.
- 20 4. A device according to any of the preceding claims, wherein at the optimal replay angle of a discrete image element, all other discrete image elements do not or substantially do not replay into the observer's eyes.
5. A device according to any of the preceding claims,  
25 wherein the optimal replay angles are achieved by tilting the device about each of a pair of orthogonal axes in the plane of the device.
6. A device according to any of the preceding claims, wherein at least one composite image comprises a central  
30 discrete image element surrounded by an outline discrete image element.
7. A device according to claim 6, wherein both discrete image elements have substantially the same colour when viewed normally.
- 35 8. A device according to claim 6, wherein the outline discrete image element comprises a background image common to both composite images.

9. A device according to any of the preceding claims, wherein the structure also replays an image which is viewable at substantially all viewing angles.
10. A device according to any of the preceding claims, 5 wherein the optically variable effect generating structure comprises a surface relief microstructure.
11. A device according to claim 10, wherein the structure includes a fully or partially reflective layer.
12. A device according to claim 11, wherein the structure 10 is formed on or in a partially demetallised foil patch or stripe.
13. A device according to any of the preceding claims, further comprising at least one datum image viewable at substantially all viewing angles.
14. A device according to claim 13, wherein the datum image appears within or overlaps at least one of the composite images. 15
15. A device according to any of the preceding claims, the structure replaying at least three composite images such 20 that at least one viewing angle two discrete image elements from different composite images replay while all others do not or substantially do not replay into the observer's eyes.
16. A device according to any of the preceding claims, 25 wherein at least one discrete image element defines a symbol.
17. A device according to claim 16 or claim 17, comprising two or more symbols which complement one another.
18. A device according to claim 16 or claim 17, wherein 30 each symbol is chosen from alphanumerics, graphical designs, geometric shapes, trademarks, national emblems.
19. A device according to any of the preceding claims, wherein the or each composite image is viewable within an area not greater than twice the lateral dimensions of the 35 composite image.
20. A device according to any of the preceding claims, wherein the or each composite image has a maximum lateral

dimension in the range 0.5-4mm, preferably 1.5-3mm, most preferably 2-3mm.

21. A device according to any of the preceding claims, wherein each discrete image element is recognisable to the  
5 naked eye.

22. A document or item of value carrying a security device according to any of the preceding claims.

23. A security thread incorporating a security device according to any of claims 1 to 21.

10 24. A document or item of value incorporating a security thread according to claim 22 or claim 23.

25. A document or article of value according to claim 24, wherein at least one of the composite images relates to the document or item.